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ABSTRACT

Visual field theory was examined insofar as television viewers' perception, retention, and preference for still visual images were concerned. The purpose of the experimental investigation was to determine whether the specific shapes, colors, and placement of visuals within a picture frame affected viewers' abilities to perceive, describe, and retain them and whether or not such an asymmetrical composition was preferred. Four tests were prepared and administered to a total of 47 randomly selected college students in basic communication classes. It was found that the viewers' ability to perceive and readily describe certain visuals within the left or right side of the visual field was greatly dependent on the shapes and colors of such visuals. The retention and recall of visuals was more accurate when the visuals were unique in their shapes, outstanding in their colors, and probably when placed within the left visual field. The viewers' preferences for the total compositional structure of still images was affected by the asymmetrical placement of the visual elements on the left-hand side of the visual field. (Author/RL)

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ASYMMETRY OF THE VISUAL FIELD:

PERCEPTION, RETENTION AND PREFERENCE OF STILL IMAGES

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by

Nikos Metallinos

A Paper Presented to

The Third International Conference

On Experimental TV Research

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While the verbal content (the aural message) of television newcasts has improved considerably, the visual content (the synthesis of the visual elements within the television screen) still maintains a stylistic form which is static, neutral, lacking visual dynamism and expression. Fearing possible viewer disturbance and, consequently, misunderstanding of the newscast stories delivered, television news producers have overlooked the need to improve the Visual content of newscasts. Still influenced by the journalistic point of view that the news stories should be delivered straight forward, television newscast producers have, in my view, ignored the basic axiom of television that the verbal content of the story should coincide with the visual content of the image. It has been repeatedly stated that the medium of television requires the presence and the harmonious co-existence of both sight and sound. The newscast picture's composition (such as framing, spacing of elements, background visuals, colors, sizes of visuals within the frames, etc.) should be compatible to the clarity, dynamism and syntheses of the news story. It is suggested, therefore, that there is overt effect on television newscast viewers when the sounds (news stories) and the sights (frame's composition) are incompatible and unbalanced.

There are extensive empirical investigations on the verbal content, news credibility, broadcast news quality, effect of newscast content on viewers, delivery of the news on television cameras, etc.[1] Studies concerning the visual content, the visual composition, the proper placement of the visual elements within the screen, the framing, balance, spacing, the use of background or symbolic visuals, etc., are limited.[2]

In their study on the effect of left versus right placement of visual images in regular newscasts, Metallinos and Tiemens[3] suggested that color,

shape or form, size and directional lines (vectors) of the visuals are contributing factors effecting veiwers' perception, recognition and retention of visual images. According to these authors...

> "There are several factors which may have contributed to a viewer's perception of visual content and thereby influence the effect of asymmetry. . .Such factors as size, color, shape, vectors (directional lives), and how individual subjects perceive these qualities must also be considered."[4]

These factors must first be examined before any conclusions can be drawn in regard to the correct placement of visual materials within the visual field. It is probable that Metallinos' and Tiemens' study on the asymmetry of the screen failed to support its hypothesis because such crucial factors as images size, color, shape, vectors, etc., were not accounted for.

It will be the province of this study to examine what effects these factors have on ordinary television viewers. Specifically, this study examines whether or not television viewers better perceive, retain and prefer still visuals in ordinary newscasts which are placed on the left side of the TV screen (newscaster's right) or the right side of the TV screen (newscaster's left), because of the particular shapes or forms, the specific colors, and the total composition of these still visuals. In other words: Do the shapes, the colors and total synthesis of still visuals within the left or right of the television screen effect viewers' perception, retention and preference of these visuals?

Psychological studies on the perception of visual images[5] and neurological studies on the distinct functions of the left and right hemispheres of the human brain[6] have contributed greatly towards our understanding of the compositon of images. Scientific evidences provided by such psychological and neurophysiological studies, have shown that viewers do discriminate in their preferences

of placement of visual materials within the visual field. The functions of the two hemispheres of the brain are asymmetrical and different.[7] Trotter's[8] study on the hemispheric specialization of the human brain concludes that the particular functions of the right hemisphere which controls the left side of the body are "spatial/musical, holistic, artistic, symbolic, simultaneous, emotional, intuitive, creative, minor (quite), spiritual, receptive, synthetic, gestalt, facial recognition, simultaneous comprehension, perception of abstract, pattern recognition of complex figures."[9] Whereas the list of the particular functions of the left hemisphere, which controls the right side of the body, include "speech/verbal, logical, mathematical, linear, detailed, sequential, controlled, intellectual, dominant, worldly, active, analytic, reading, writing, naming, sequential ordering, perception of significant order, complex motor sequences."[10] These two lists point out the various perceptual, cognitive and compositional factors regarding shapes, colors and total compositional preference of visuals by television viewers, and they are of immediate concern to this study.

Psychologists have observed how viewers perceive and recognize shapes, forms or patterns, starting with simple geometric figures (such as rectangles, circles, triangles, squares, etc.) and progress to more advanced, complex and ambiguous ones (such as multisided figures, three-dimensional objects, reversible figures, etc.).[11] Depending on such key factors as (a) duration of presentation, (b) the development of the perceiving individual and (c) the individual's familiarity with the pattern (shape or form), the order of preference and recognition is triangle, circle, square, parallelogram, rectangle, etc.[12] This empirical evidence has been observed and stated by Taylor, a renowned analyst of the Visual Arts[13] and the famous Gestalt psychologist, Kaffka[14], both of whom have maintained that "the simpler and more stable the pattern,

the more readily it is perceived and recognized." This implies that the extent to which a viewer perceives, retains and observes the total synthesis of visuals within the field depends on the degree of simplicity of the particular visual. Consequently, a simple pattern (such as a circle), placed on the left visual field, could be perceived and recognized more readily than a more complex pattern (such as a rectangle) placed on the opposite side. The central concern of this study, however, is whether or not similar patterns (shapes or forms) are perceived and/or recognized more readily when they are placed on the left visual field rather than the right, as long as the rest of the visuals within the frame remain constant. Trotter's[15] list of hemispheric specialization suggests that the perception of abstract patterns and recognition of complex figures (both of which are functions of the right hemisphere of the brain) are left side specializations. Can we infer, however, that such specialization and preference could be said for the left visual field of still pictures? This hypothesis needs to be tested.

Empirical studies on viewers' perception, retention and compositional preference of colored images are also extensive.[16] An interesting observation has been made by Arnheim who concludes that:

> "Since shape and color can be distinguished from each other, they can be also compared. Both fulfill the two most characteristic functions of vision. They convey expression, and they allow us to obtain information through the identification of objects and happenings."[17]

This relationship is also observed by Bloomer who states that:

> "Context is the most influential frame of reference for color perception. A single swatch of color will seem brighter, duller, darker, or changed in hue by changing only the context in which the color is seen."[18]

In evaluating the empirical findings on the subject of color preference, Arnheim concludes that color preferences are related to complex social and highly personal factors, which ~~obscure~~ obscure the experimentation and bias the results.

He suggests that ". . .it might be preferable not to experiment with colors 'as such', but to relate them to specific objects as is done in the field of market research."[19] The perception of colors, their retention, and their preference, have not been reliably determined. Consequently, viewers' perception, retention and preference for colors due to their placement within the visual field requires further testing. Numerous experiments conducted by such interested groups as physicists, paint manufacturers, artists, interior decorators, neurologists and, of course, psychologists, have been done,[20] and the seemingly superfluous attempts by researchers have been summarized by Boynton as follows:

> "Unfortunately, data from many studies, where global judgements of color preference have been obtained, seem meaningless. In the first place, because color is perceptually attached to objects we do not necessarily have a favorite color that transcends all circumstances; red may be fine for fire engines, but not for the livingroom wall. Second, colors typically exist in more than one part of visual space at a time. The appearance of a color depends upon its surroundings and so do color preferences."[21]

Important differences in viewer perception, retention and preference of colors due to their left or right placement within the visual field were expected, and a hypothesis and a treatment testing such probable differences was deemed necessary in this study.

Comparing the effects of (1) full-background still visuals on the TV screen, versus no background visuals at all, and (2) corner screen location of visuals (opposite a live newscaster), as opposed to no visuals at all, Coldevin's[22,23] studies on television newscast strategy and Baggaley and Duck's[24] studies on the effects of adding background, have revealed some very important conclusions focusing on the variables involving the present investigation. These studies confirmed the remarks made earlier regarding the need for better presentation of newscasts. According to Coldevin: "When location establishment static visuals are used to enhance a speaker's delivery (when he

is positioned centrally), a full screen is more effective background display strategy."[25] Furthermore, these studies suggest that "when symbolic presentations are used to enhance a news reader's delivery, a corner screen location is the more compelling background display strategy."[26] These studies did not, however, concern themselves with the asymmetrical placement of such still visuals and their preferred placement (left or right) within the visual field, which concern the present study.

Although the review of literature suggests that the left visual field is more appropriate for the presentation of visual information, there is a disagreement among constructors of visual messages regarding the asymmetry of the visual field.

To test the effects of placement within the visual field of still TV pictures on viewers' perception, the following hypotheses were tested:

1. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect viewers' ability to perceive and to readily describe their shapes (forms or patterns).
2. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect viewers' ability to perceive and to readily describe their colors.
3. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect the retention of visual content.
4. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly effect the viewers' preference of their general composition.

The test for hypotheses #1 (viewers' perception of predominant/outstanding shapes and forms) was a multiple-choice one consisting of twenty-one items constructed from responses gathered by thorough pre-testing of all the possible shapes, forms or patterns contained in the visuals of the 20 slides. The image of the newcaster remained constant. Each slide was projected for 10 seconds with an interval of 15 seconds blank light to allow the subject to mark their choices. (See Appendix C.)

The test for hypothesis #2 (viewer perception of predominant/outstanding colors) was also a multiple-choice one consisting of a total of nine possible items constructed from responses gathered by thorough pre-testing of all the possible colors contained in the visuals of the 20 slides excluding the colors of the background and the image of the newscaster which remained constant (see Appendix D).

The test for hypothesis #3 (viewers' retention of the visual stimuli used in the news stories) provided five choices for each slide, one of which was the correct one. Each slide was randomly shown on the screen for ten seconds. Each subject was then asked to identify the visual from each slide that was used in the previous presentation. (See Appendix E.).

The test for hypothesis #4 (testing the viewers' general preference for the total composition of the original 20 slides) consisted of then step preference scale ranging from "don't like at all" to "like very much". (See Appendix F.) Each slide was shown for ten seconds and subjects were asked to record their preferences.

A t test was used (in each of the four experiments) to test for significant differences between viewers' perception of shapes, colors, visual retention, and general preference for the total composition of visuals. The .05 level of confidence was pre-set as the level for rejecting hypotheses of no difference.

PROCEDURE

Four tests were prepared and administered to a total of 47 randomly selected subjects from basic communication classes at Temple University. The tests were administered successively to groups of 4-6 subjects at a time. A viewing room was set forth and prepared to meet the prerequisites in projection conditions, viewing distances, angles, image size, timing of visual display, etc.[27]

The stimulus materials utilized to test null-hypothesis #1 (shapes of visuals), hypothesis #2 (color of visuals) and null-hypothesis #4 (general preference of visuals) consisted of 20 color slides taken from an original videotape containing 20 short stories in international, national and local news. Each slide captured the newscaster in a medium close-up while he was facing the camera. His image occupied either the left or the right of the visual field. The other side of the slide (opposite the newscaster) was proportionately balanced with the placement of visuals (specifically designed for this study) to illustrate (symbolically) the content of the news story. Consequently, the 20 different stories were symbolically illustrated with 20 different visuals (simple pictures, drawing, faces, objects, etc.) alternately placed on the left and right space of the visual field, keeping a series of variables constant that would have distracted the viewers. (See Appendix A.) The stimulus materials (Test Items) used to test viewers' retention (hypothesis #3) of the visual stimuli used in the previous tests consisted of 20 slides. Each slide containing five visuals, the visual originally used to symbolize the content of the news story and four additional ones (similar to the original), symbolically depicting the same story were randomly presented to the subjects. (See Appendix B.)

ANALYSES AND RESULTS

The t test result of 2.719 obtained from the first test was significant. Therefore, the hypothesis that the viewers' ability to perceive shapes (forms or patterns) is influenced by their placement on the right or left side of the television screen supported the theory of the asymmetry of the visual field. Table I shows the summary of the data obtained from the test of the first hypothesis.

INSERT TABLE I HERE

A closer look at the results of this test as shown in Table I indicates the following:

1. The viewers' ability to perceive the visual content of a picture is closely related and dependent on the asymmetrical placement (left or right) of the visual within the field.
2. The simpler the visual display (the form, shape or pattern), the more readily it was perceived and recorded by the viewers. Map-like, human-like, single circles (test items #6, 8, 12 and 16 respectively), regardless of their left or right placement within the visual field, were perceived by the greatest majority of the subjects. Complex visual forms might be more interesting compositionally, but they are not readily perceived by viewers. See, for example, test items #3, 7, 11, 13 and so.

TABLE 1

The Perception of Predominant Shapes (Forms)

Test Item	Visual Placement	Shape	Left	Right
1	R	two circles/isometric	-	13
2	L	two circles	27	-
3	L	two circles/concentric	4	-
4	L	circles/other	19	-
5	R	other/circles	-	17
6	R	map-like	-	38
7	L	other/ambiguous	6	-
8	R	human-like	-	29
9	R	map-like/human-like	-	20
10	L	map-like/other	16	-
11	L	other/ambiguous	9	-
12	R	map-like	-	39
13	R	other/rectangle	-	1
14	R	rectangle/other	-	20
15	L	rectangle/undecided	17	-
16	L	circle	42	-
17	R	circle	-	17
18	L	circle/other	12	-
19	L	other/rectangle	16	-
20	R	rectangle	-	8

$t46 = \frac{0.957}{0.352} = 2.719$ significant at the .01 level

3. the degree to which the symbolic presentation of a news story, an event, an idea, or an institution is successfully perceived and readily described by the viewers depends on the viewers' ability to identify the visuals (the symbolic illustration) in terms of its relationship to a known geometric figure. For example, test item #3 (symbolizing world peace), #7 (symbols of the Democratic and Republican parties), #11 (taxation in the U.S.A.), #13 (Utah's development of energy sources) and #20 less (liquor laws and control of the state of Utah) are more or less known symbols, commonly used or easily identifiable by adult viewer. However, they do not constitute a specific/known, and simple geometric figure, and that might be a reason for their low score.

The t test result of 4.475 obtained from the second test was significant at the .001 level. It confirmed the hypothesis (#2) that the viewers' ability to perceive certain colors more readily and distinctively due to the right or left placement within the picture frame. Table II shows the summary of the data obtained from the test of the second hypothesis.

INSERT TABLE II HERE

Although the subject of color perception and description by the viewers is complex, a close look at the results of the second test (Hypothesis #2), shows the following:

TABLE 11

The Perception of Predominant Colors

Test Item	Visual Placement	Color	Left	Right
1	R	yellow/white	-	26
2	L	yellow/white	15	-
3	L	yellow/white	36	-
4	L	white	2	-
5	R	black/blue	-	36
6	R	brown/yellow	-	25
7	L	brown/white	4	-
8	R	mixture/blue	-	16
9	R	white	-	5
10	L	yellow	18	-
11	L	white	10	-
12	R	white/red	-	24
13	R	yellow/green	-	32
14	R	yellow/green	-	29
15	L	yellow	24	-
16	L	white/blue	20	-
17	R	blue	-	19
18	L	yellow/green	22	-
19	L	brown	29	-
20	R	brown	-	32

$t46 = \frac{1.340}{0.253} = 5.296$ significant at the .001 level

1. One distinctive color, rather than a mixture of hazy, unclear colors is better perceived by the viewers. For example, test item #3 (clear yellow and white), #5 (distinctive black and blue), #13 (sharply defined yellow and green) #19 (only clear brown) and #20 (also clear brown) scored high whereas test item #4 (hazy off-white), #7 (brown and white) and #9, 10 and 19 (unclear, indistinguishable white) scored very low.
2. Since this study did not use a control group to test for viewer preference of colors within the left and right sides of the visual field, no conclusion can be made as to whether or not reds (for example) are perceived better when they are placed on the left side of the screen rather than the right.
3. Although the subjects were asked to identify the outstanding, predominant colors of the slides, it is probable that the significant differences found (by rejecting hypothesis #2) is due to the visuals' shapes and contents which is so closely related to their colors. More tests are needed in this area.

The t test results of 2.458 obtained from the third test was also significant at the .02 level. It confirms the hypothesis (#3) that viewers will retain the visuals placed on the left side of the screen better than those placed on the right. Table III shows the summary of the data obtained from the test of the third hypotheses.

INSERT TABLE III HERE

TABLE III

The Retention of Visuals

Test Item	Visual Placement	Left	Right
1	R	-	38
2	R	-	35
3	L	34	-
4	R	-	38
5	L	42	-
6	R	-	41
7	L	47	-
8	L	31	-
9	R	-	33
10	R	-	36
11	R	-	7
12	L	41	-
13	R	-	38
14	L	35	-
15	L	25	-
16	L	33	-
17	L	44	-
18	R	-	43
19	R	-	19
20	L	21	-

$t46 = \frac{0.553}{0.225} = 2.458$ significant at the .02 level.

Retention and recall of visual stimuli is also a complex process, and, for the most part, hidden. Most of our recall and retention is due to some mechanism of the unconsciousness of which viewers are not always aware and responsible.[28] The more complicated the visual display, the more complex is its process of retention. The results of hypothesis #3 indicate the following:

1. Regardless of their left or right placement within the visual field, those shapes and forms which are peculiar, different, unique, unusual, seem to be more readily recognized. For example, test items #5, 17, and 18 (see Appendix B) have a very high score.
2. Visuals with color (along with their unusual shapes) which are different and distinctive are better retained and more readily recalled. For example, see test items #6, 7 and 12.
3. The total score of retention of visuals placed on the left side of the visual field is greater than the total score of those placed on the right (L = 362, R = 328).

The t test result of 3.932 obtained from the fourth test was also significant at the .01 level. It confirmed the hypothesis that viewers preferred the composition of those slides in which the visuals appeared on the left. Table IV shows the summary of data obtained from the test of the fourth hypothesis.

INSERT TABLE IV HERE

The individual scores shown in Table IV indicate that the viewers' clear preference for asymmetrical rather than symmetrical composition is apparant. More importantly, the scores in Table IV suggest that the placement of visuals

TABLE IV

Total Compositional Preference of Still Visuals

Test Item	Visual Placement	Left	Right
1	R	-	204
2	L	240	-
3	L	299	-
4	L	156	-
5	R	-	194
6	R	-	203
7	L	104	-
8	R	-	205
9	R		275
10	L	243	-
11	L	236	-
12	R	-	243
13	R	-	173
14	R	-	174
15	L	229	-
16	L	347	-
17	R	-	265
18	L	247	-
19	L	189	-
20	R	-	156

$t46 = \frac{5.255}{1.729} = 3.039$ significant at the .01 level

illustrating the content of the story (narrated by the announcer) on the viewer's left is preferred as a general composition. With great consistency, the subjects scored those slides whose visuals were on the left higher than those slides whose visuals were on the right (see, for example, test items #2, 3, 10, 11, 15, 16, and 18). Equally, the sum-total of the scores of the slides where visuals were placed on the left was 2190 as opposed to 2152 on the right.

CONCLUSIONS

Within the limits of this study, the following conclusions can be drawn:

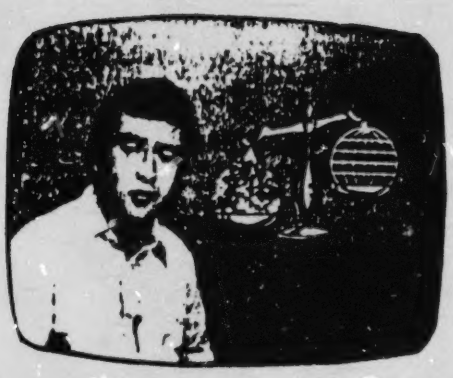
1. Viewers' perception of certain shapes, forms or patterns of visual stimuli is affected by their asymmetric placement within the left or right-hand side of the visual field.
2. Viewers' perception of certain colors of visuals stimuli is affected by their asymmetrical placement within the left or right-hand side of the visual field. However, the precise placement of such colors within the left or right sides of the visual field remains unresolved.
3. Viewers' ability to retain the shapes and colors of visual stimuli depends on (or is affected by) their asymmetrical placement within the left visual field.
4. Viewers' preference for the total compositional structure of still images is affected by the asymmetrical placement of the visual elements on the left or right-hand side of the visual field.

A comparative study which would utilize a control group to test the viewers' perception, retention and preference of the same visuals alternating sides within the visual field is warranted.

APPENDIX A

STILL VISUALS (NEWS STORIES)

Test Item (News Story) #1



Test Item (News Story) #2

Test Item (News Story) #3

Test Item (News Story) #4

Test Item (News Story) #5

Test Item (News Story) #6

Test Item (News Story) #7

Test Item (News Story) #8

Test Item (News Story) #9

Test Item (News Story) #10

Test Item (News Story) #11

Test Item (News Story) #12

Test Item (News Story) #13

Test Item (News Story) #14

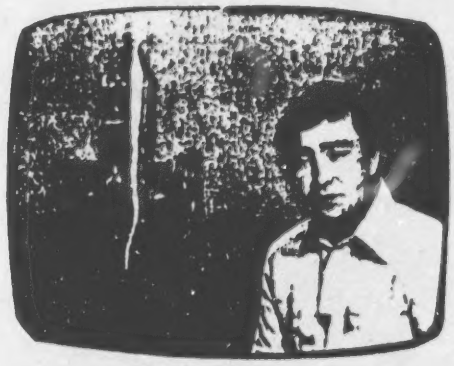
Test Item (News Story #15

Test Item (News Story #16

Test Item (News Story) #17

Test Item (News Story) #18

Test Item (News Story) #19



Test Item (News Story) #20

APPENDIX B

MULTIPLE VISUALS (FIVE VISUALS EACH)

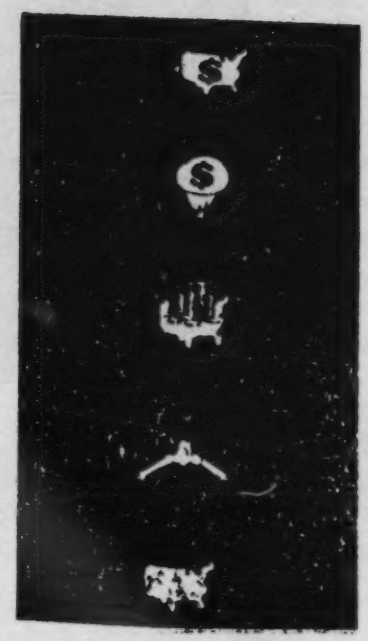
Test Item #1
News Story #12

Test Item #2
News Story #14

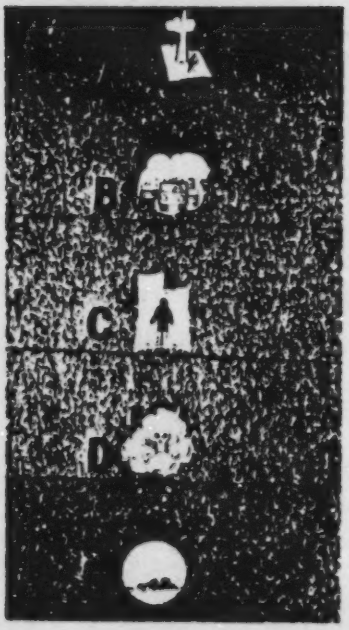
Test Item #3
News Story #18

Test Item #4
News Story #9

Test Item #5
News Story #4

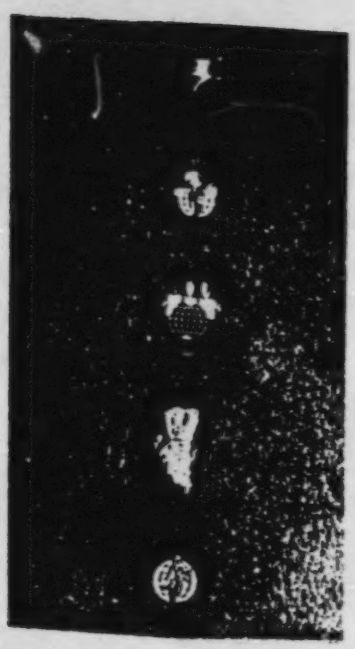


Test Item #6
News Story #6

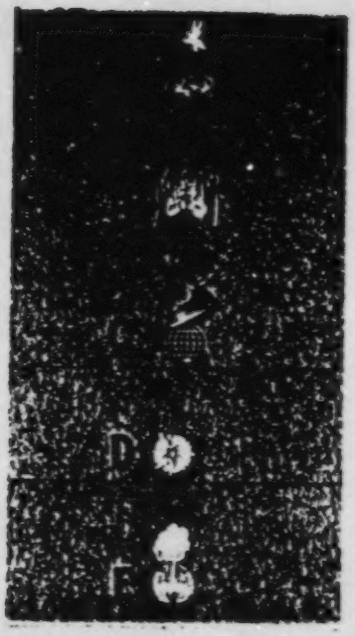


Test Item #7
News Story #16

Test Item #8
News Story #11

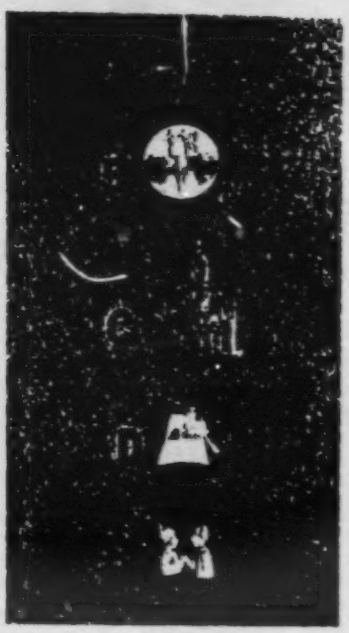


Test Item #9
News Story #8

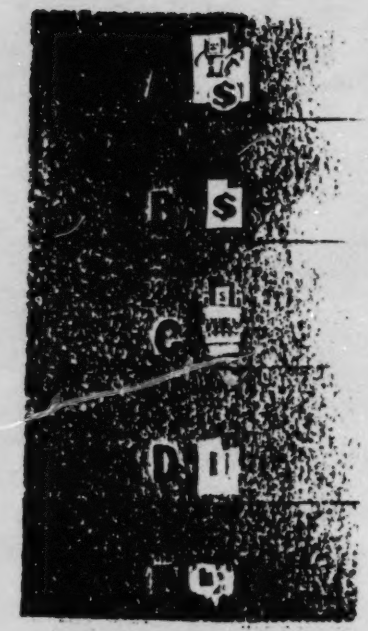


Test Item #10
News Story #5

Test Item #11
News Story #17

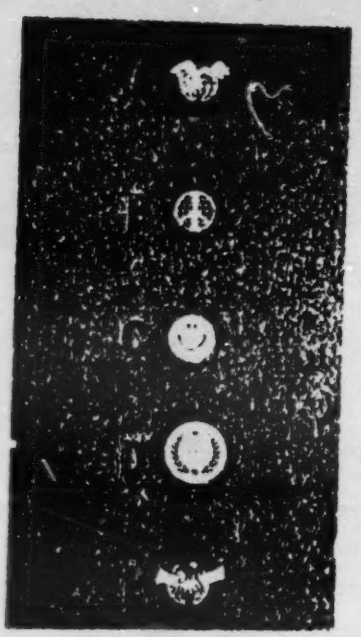


Test Item #12
News Story #19

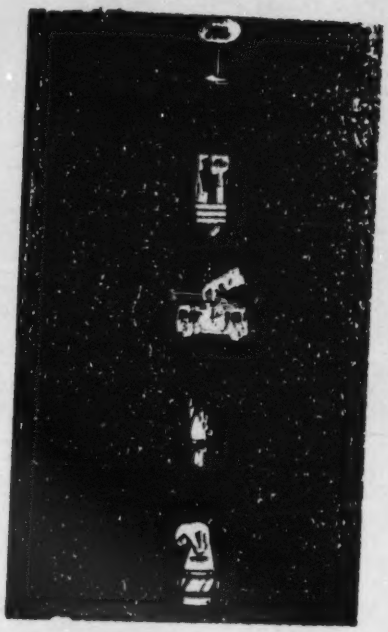


Test Item #13
News Story #13

Test Item #14
News Story #7

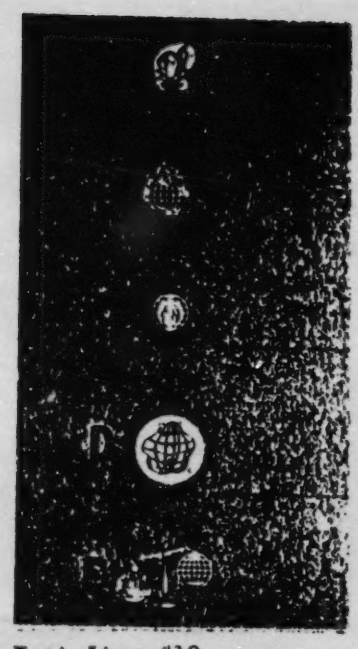


Test Item #15
News Story #3

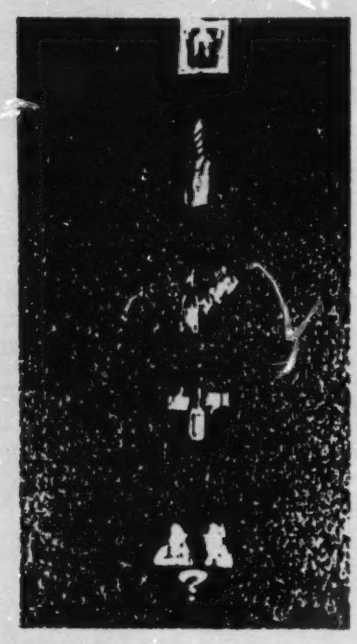


Test Item #16
News Story #15

Test Item #17
News Story #10



Test Item #18
News Story #1



Test Item #19
News Story #20

Test Item #20
News Story #2

APPENDIX C

MULTIPLE CHOICE TYPE TEST (HYPOTHESIS #1)

DIRECTIONS

You will see twenty (20) slides each consisting of an illustration/graphic and an announcer. Select the shape that appears to you to be the most important (predominant or outstanding) in each illustration/graphic by placing an "X" in the appropriate box below. Be sure to mark each of the twenty (20) slides.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
MAP-LIKE																					MAP-LIKE
HUMAN-LIKE																					HUMAN-LIKE
CIRCLE																					CIRCLE
(2) CIRCLES																					(2) CIRCLES
(3) CIRCLES																					(3) CIRCLES
ISOMETRIC CIRCLES																					ISOMETRIC CIRCL
CONCENTRIC CIRCLES																					CONCENTRIC CIRC
SQUARE																					SQUARE
(2) SQUARES																					(2) SQUARES
(3) SQUARES																					(3) SQUARES
TRIANGLE																					TRIANGLE
(2) TRIANGLES																					(2) TRIANGLES
(3) TRIANGLES																					(3) TRIANGLES
RECTANGLE																					RECTANGLE
(2) RECTANGLES																					(2) RECTANGLES
(3) RECTANGLES																					(3) RECTANGLES
ELIPSOIDAL																					ELIPSOIDAL
AMBIGUOUS FIGURE																					AMBIGUOUS FIGURE
NON-IDENTICAL																					NON-IDENTICAL
OTHER																					OTHER
UNDECIDED																					UNDECIDED
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

APPENDIX D

MULTIPLE CHOICE TYPE TEST (HYPOTHESIS #2)

DIRECTIONS

Please select the color that appears to be most important (predominant or outstanding) in each graphic illustration, (excluding the newscaster) by placing an "X" in the apprpriate box. Be sure to mark each of the twenty slides.

SLIDE #	1	2	3	4	5	6	7	8	9	10	
Black											Black
White											White
Red											Red
Blue											Blue
Green											Green
Yellow											Yellow
Orange											Orange
Brown											Brown
Mixture											Mixture

SLIDE #	11	12	13	14	15	16	17	18	19	20	
Black											Black
White											White
Red											Red
Blue											Blue
Green											Green
Yellow											Yellow
Orange											Orange
Brown											Brown
Mixture											Mixture

APPENDIX E

VISUAL RETENTION TEST

DIRECTIONS

From among the five illustrations contained in each of the slides you are now about to see, check the one you think was used in the previous test. Please check only one illustration by circling the corresponding letter.

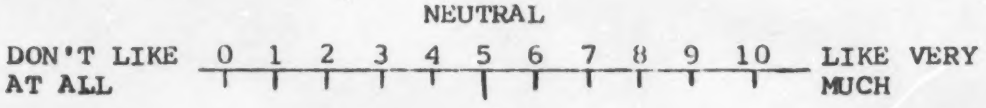
1.	A	2.	A	3.	A	4.	A	5.	A
	B		B		B		B		B
	C		C		C		C		C
	D		D		D		D		D
	E		E		E		E		E
6.	A	7.	A	8.	A	9.	A	10.	A
	B		B		B		B		B
	C		C		C		C		C
	D		D		D		D		D
	E		E		E		E		E
11.	A	12.	A	13.	A	14.	A	15.	A
	B		B		B		B		B
	C		C		C		C		C
	D		D		D		D		D
	E		E		E		E		E
16.	A	17.	A	18.	A	19.	A	20.	A
	B		B		B		B		B
	C		C		C		C		C
	D		D		D		D		D
	E		E		E		E		E

APPENDIX F

TEST STEP PREFERENCE SCALE (HYPOTHESIS #4)

DIRECTIONS

Now, we will look again at the original twenty (20) slides. Using the scale below, write a number in the box for each slide indicating how much you like the general composition of the slide as a whole.



SLIDES	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

SLIDES	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	

FOOTNOTES

[1]See for example, Ronald S. Weinthal and Garrett J. O'Keef, Jr.'s "Professionalism Among Broadcast Newsmen In An Urban Area," Journal of Broadcasting 18:2 (Spring 1974) and Vernon A. Stone's "Attitudes Toward Television Newswomen," Journal of Broadcasting 18:1 (Winter 1974).

[2]See for example, Lee M. Mandell and Donald L. Show's "Judging People in the News - Unconsciously: Effects of Camera Angle and Bodily Activity," Journal of Broadcasting 17:3 (Summer 1973) and Thomas A. McClain, et. al. "The Effect of Camera Angle on Source Credibility and Attraction," Journal of Broadcasting 21:1 (Winter 1977).

[3]Nikos Metallinos And Rober K. Tiemens, "Asymmetry of the Screen: The Effect of Left Versus Right Placement of Television Images," Journal of Broadcasting 21:1 (Winter 1977).

[4]Metallinos and Tiemens, pp. 31-32.

[5]See for example, the numerous studies recorded in Ralph Norman Haber's (editor) Contemporary Theory and Research in Visual Perception (New York: Holt, Rinehart and Winston, Inc., 1968).

[6]See for example. the various studies recorded by Robert E. Ornstein (editor) in The Nature of Human Consciousness: A Book of Readings (San Francisco: W.H. Freeman and Co., 1968).

[7]A good review of studies on the functions of the human brain is cited in Peter A. Anderson, et al. "Implications of a Neurophysiological Approach for the Study of Non-Verbal Communication." Human Communication Research 6:1 (Fall, 1979) pp. 74-89.

[8]Robert J. Trotter, "The Other Hemisphere," Science News 109:2 (April 3, 1976) pp. 218-223.

[9]Trotter, p. 219.

[10]Trotter, p. 219.

[11]Gerald M. Murch, Visual and Auditory Perception (New York: The Bobbs-Merrill Co., Inc., 1973) pp. 122-149.

[12]Murch, p. 123.

[13]John F. A. Taylor, Design and Expression in the Visual Arts (New York: Dover Publications, Inc., 1964) p.19.

[14]Murch, p. 124.

[15]Trotter, p. 219.

[16]See for example, the works of Faber Birren in his editions of Color Psychology and Color Therapy (New Hyde Park, N.Y.: University Books, Inc., 1961) and Color in Your World (New York: The MacMillan Co., 1962). Also, See Leo M. Hurvich and Dorothea Jameson's The Perception of Brightness and Darkness (Boston: Allyn and Bacon, Inc., 1966).

[17]Rudolph Arnheim, Art and Visual Perception (Berkely: University of California Press, 1969) p. 323.

[18]Carolyn M. Bloomer, Principles of Visual Perception (New York: Van Nostrand Reinhold Co., 1976).

[19]Arnheim, p. 334.

[20]Julian Hochberg, "Perception, Color and Shade," Experimental Psychology (3rd ed.), edited by J.W. Kling and L.A. Riggs (New York: Holt, Rinehart and Sinston, Inc., 1971) pp. 395-474.

[21]Robert M. Boynton, "Color Vision," Experimental Psychology (3rd ed.), edited by J.W. Kling and L.A. Riggs (New York: Holt, Rinehart and Winston, Inc., 1971) p. 315.

[22]Gary O. Coldevin, "Experiences in TV Presentation Strategies: Effectiveness of Full Screen vs. Corner Screen Location Establishment Background Visuals," Educational Broadcasting International 11:2 (1978) pp. 17-18.

[23]Gary O. Coldevin, "Experiments in TV Presentation Strategies: Number 2," Educational Broadcasting International 11:2 (1978) pp. 158-159.

[24]Jon P. Baggaley and S.W. Duck, "Experiments in ETV: Effects of Adding Background," Educational Broadcasting International 7:4 (1974) pp. 1-4.

[25]Coldevin, "Experiments in TV Presentation Strategies: Number 2," p. 159.

[26]Coldevin, "Experiments in TV Presentation Strategies: Number 2," p. 159.

[27]See for example, Gene L. Wilkinson's study on "Projection Variables and Performance," Audio/Visual Communication Review 24:4 (Winter 1970) pp. 413-435 and Tom Mayer's "Tech memos: TV Monitor Placement," Pacesetter 6:1 (Summer 1973) p. 4, etc.

[28]Howard Shevrin, "Glimpses of the Unconscious," Psychology Today 13:11 (April 1980) p. 11.